MCO297

Firecode

Fire Practice Note 8

Atria on hospital premises

UK Health Departments

NHS Executive

NHS Estates
An Executive Agency of the Department of Health

Firecode

Fire Practice Note 8

Atria on hospital premises

London : HMSO

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About this publication

This Fire Practice Note (FPN) provides guidance on the additional fire precautions required when atria are incorporated in the design of a NHS hospital. These are required because atria provide a route by which fire and smoke may spread more rapidly than in an equivalent non-atrium hospital.

Atria within buildings can provide an exciting multi-storey space allowing natural light into a deep plan building. This document accepts that the design team may wish to maximise the use of the atrium space, both from a commercial point of view and also architecturally by creating a stimulating space to improve the overall environment of the hospital and as an aid to the recovery of patients.

FPN 8 has been prepared in association with a working group chaired by NHS Estates and in consultation with:

- the Home Office;
- the Department of the Environment;
- the Chief and Assistant Chief Fire Officers Association;
- the Fire Research Station;
- the National Association of Hospital Fire Officers; and
- representatives from the NHS.

In this Fire Practice Note and the associated Firecode documents, references to "general managers" means general managers of health authorities and reference to "chief executives" means chief executives of NHS trusts. References to health authorities include NHS trusts in appropriate circumstances.

The Home Office will distribute this Fire Practice Note to all Chief Fire Officers. The Note should be used as a basis for discussions with local fire authorities.

Contents

1. Introduction and scope *page 3*
1.1 General application
1.6 Existing guidance
1.9 Background
1.10 Other Firecode documents

2. Glossary of terms *page 5*

3. Organisation and management of fire safety *page 7*
3.1 Accountability for fire safety
3.4 Fire safety policy
3.5 Emergency plans
3.9 Training of staff
3.14 Fire prevention
3.15 Textiles and furniture
3.17 Additional guidance

4. Technical recommendations *page 10*
4.6 General design recommendations
4.7 Relationship to hospital departments
4.11 Use of atria
4.13 Detection and alarm
4.16 Provision of automatic detection
4.17 Fire alarm zones
4.18 Fire alarm warnings
4.19 Means of escape
4.22 Travel distance
4.26 Escape lighting
4.31 Separation
4.35 External fire spread
4.38 Smoke control
4.46 Automatic extinguishing systems
4.52 Segregation of services

Other Firecode publications *page 20*

About NHS Estates *page 21*

1.0 Introduction and scope

General application

1.1 This Fire Practice Note (FPN) provides **interim** guidance on the standard of fire safety applicable to:

a. purpose-built atria as part of NHS hospital premises;

b. conversion of non-ward hospital accommodation into an atrium.

Northern Ireland – Health and Social Services premises.

It should be used by all those with a responsibility for the design and management of fire safety in NHS hospital premises that include atria. The status of this FPN will be reviewed when BS5588: Part 7 'Incorporation of atria in buildings' is published.

1.2 The guidance in this document comes into operation on 1 May 1995.

Northern Ireland – Patients include residents and clients.

1.3 This FPN applies to both new and existing hospitals. The guidance it contains should ensure that irrespective of the age of the premises, the atrium can be designed and managed so that it does not put staff, patients or visitors at any greater risk from the effects of fire, smoke and toxic gases, than elsewhere within the hospital.

1.4 Where it is proposed to convert existing entrance or courtyard areas of a hospital into an atrium, the effect of the conversion on the overall standard of fire safety within the hospital needs to be considered. The conversion should be considered as a "major alteration" as defined in HTM 81 and should be designed to comply with the guidance in that document and the additional requirements in this FPN.

1.5 Where atria are incorporated within a "template" or courtyard of a Nucleus hospital, they should be designed to maintain the fire safety principles of the Nucleus design concept as described in 'Nucleus Fire Precautions Recommendations' (NFPR), in addition to the requirements in this FPN.

Existing guidance

1.6 The guidance in this Fire Practice Note supplements that contained in:

a. Guide to fire precautions in existing places of work that require a fire certificate[1];

b. Code of practice for fire precautions in factories, offices, shops and railway premises not required to have a fire certificate[1];

c. Approved Document B[2][3];

and it should be read in conjunction with these three documents.

(1) Published by Home Office/The Scottish Office.

(2) Published by Department of the Environment.

(3) Northern Ireland – Technical Booklet E 1994

1.7 The additional guidance provided by this FPN is considered necessary as atria provide a route by which smoke and fire may spread from storey to storey much more rapidly than in the equivalent non-atrium building. Such spread of fire and smoke can have a significant effect upon the number of persons initially at risk, the time available for escape and the activity of fire-fighters.

1.8 For hospitals in particular, there may also be a high proportion of elderly people or people with a disability in the atrium at any one time. These people may be slow-moving and require additional time and assistance to escape. To address these concerns atria should be provided with higher standards of fire protection than would normally be provided within similar single-storey spaces.

Background

1.9 An atrium within a building can provide an exciting multi-storey space allowing natural light into a deep plan building. The architectural potential of atria has long been recognised in hotels, offices and shopping complexes. Hospitals are now adopting a more market orientated approach with the development of trusts and the role of purchasing introduced by the NHS and Community Care Act 1990. Within this increasingly competitive environment, the use of atria to enliven hospitals by creating stimulating spaces to attract health purchasers and to improve income generation is expected to increase.

Northern Ireland – The Health and Personal Social Services (Northern Ireland) Order 1991.

Other Firecode documents

1.10 This document should be read in conjunction with the recommendations contained in the latest revisions of the following Firecode documents:

a. 'Policy and principles';

b. Nucleus fire precautions recommendations;

c. HTM 81 – 'Fire precautions in new hospitals';

d. HTM 82 – 'Alarm and detection systems';

e. HTM 83 – 'Fire safety in healthcare premises: general fire precautions';

f. HTM 87 – 'Textiles and furniture';

g. FPN 4 – 'Hospital main kitchens';

h. FPN 5 – 'Commercial enterprises on hospital premises';

j. FPN 6 – 'Arson prevention and control in NHS healthcare premises';

k. FPN 7 – 'Fire precautions in patient hotels'

and any other applicable Firecode guidance as and when it is published.

2.0 Glossary of terms

2.1 For the purposes of this document the following terms are defined:

- **associated floor area:** any floor area not separated from the atrium by means of fire-resisting construction. The area of the atrium base should be included in the calculation of the associated floor area;
- **atrium (plural atria):** the vertical space in an atrium building (other than a shaft used solely for stairs, escalators, lifts or services) together with an associated floor area;
- **atrium base:** the plan area of the lowest floor level, bounded by lines projected down from the edge of the floor slab immediately above the lowest floor level within the atrium;
- **atrium building:** a building where there are storeys abutting a space (atrium) that is enclosed at the top;
- **compartment:** a building or part of a building, comprising one or more rooms, spaces or storeys, constructed to prevent the spread of fire to or from another part of the same building, or an adjoining building;
- **compartment floor:** a fire resisting floor used to separate one fire compartment from another;
- **compartment wall:** a fire resisting wall used to separate one fire compartment from another;
- **emergency lighting:** lighting provided for use when the supply to the normal lighting fails;
- **escape lighting:** that part of the emergency lighting which is provided to ensure that the escape route is illuminated at all material times;
- **equivalent non-atrium building:** a notional building which has the same overall height, volume, occupancy and floor area at each level as the atrium building under consideration, but which does not contain an atrium;
- **final exit:** the termination of an escape route from a building giving direct access to a place of safety outside the building;
- **fire door:** a door or shutter provided for the passage of persons, air or objects which, together with its frame and furniture **as installed** in a building, is intended when closed, to resist the passage of fire and/or gaseous products of combustion and is capable of meeting specified performance criteria to those ends;
- **fire hazard room:** room or area as defined in Firecode: HTM 81 – 'Fire precautions in new hospitals';
- **fire precautions:** measures which can be taken to reduce the likelihood of ignition occurring and/or to mitigate the consequences should ignition occur. Precautions are considered under five headings, each of which is defined below:

  (i) **prevention:** precautions to control potential ignition and fuel sources, to ensure that fires do not start; prevention also includes general fire precautions;

(ii) **communications/alarm and detection:** precautions which inform the occupants and fire brigade when a fire starts;

(iii) **means of escape:** precautions which enable the occupants of the building to turn their back on the fire, and escape to a place of safety away from the effects of the fire;

(iv) **containment:** precautions which contain the fire to the smallest possible area, and control the threat to life safety and the extent of property damage;

(v) **extinguishment:** precautions which ensure that the fire can be extinguished quickly and with the minimum disturbance to the function of the hospital and damage to its premises;

- **fire resistance:** ability of an element of building construction, component or structure to fulfil, for a stated period of time, the required load bearing capacity, fire integrity and/or thermal insulation and/or other expected duty in a standard fire resistance test;
- **fire stop:** a seal provided to close an imperfection of fit or design tolerance between elements or components, to restrict the passage of fire and smoke;
- **ignition sources:** heat sources or flames which may cause ignition;
- **limited fire load:** the fire load over any 10 m^2 of floor area which has a convective heat output not exceeding 0.1 MW;
- **place of safety:** a place where persons are in no danger from fire;
- **progressive horizontal evacuation:** evacuation of patients away from a fire into a fire free compartment or sub-compartment on the same level;
- **protected shaft:** a shaft which enables persons, air or objects to pass from one compartment to another, and which is enclosed with fire-resisting construction;
- **smoke control:** any technique for dealing with smoky gases within a building, or other structure, in order to protect the structure, the contents, the means of escape, or to assist firefighting operations;
- **travel distance:** the horizontal distance to be travelled by a person from any point within the floor area to the nearest adjoining compartment, sub-compartment, escape stairway or external exit, having regard to the layout of walls, partitions, fittings and furniture.

3.0 Organisation and management of fire safety

Accountability for fire safety

3.1 The guidance in Firecode – 'Policy and principles' establishes a framework for the accountability for fire safety in premises owned or occupied by an NHS organisation: the chief executive or general manager shall assume overall responsibility for fire safety in all premises occupied or used by their trust or authority. This guidance which ensures acceptable standards of fire safety for patients, staff and visitors applies equally to atria irrespective of the ownership or the day-to-day management of the premises.

Northern Ireland – Northern Ireland Firecode Policy and Principles

3.2 Wherever the ownership or the day-to-day management of an atrium is with a non-NHS organisation, the contractual arrangements should provide that the design and operation will comply with the guidance in this document and Firecode – 'Policy and principles'.

3.3 Where commercial premises are contained in the atrium the management of fire safety should take account of section 3 of FPN 5 – 'Commercial enterprises on hospital premises'.

Fire safety policy

Requirement

3.4 Each atrium should have a separate written fire safety policy. This should clearly define:

a. duties of management;

b. staff with specific responsibilities or duties;

c. duties of all staff.

Emergency plans

Requirement

3.5 Each atrium should have a written emergency plan prepared in consultation with the local fire authority. This should include:

- means for raising the alarm in case of fire;
- the number of staff on duty;
- the number of staff required in a fire emergency;
- the responsibilities of staff in a fire emergency and the availability of additional staff to assist;
- procedures to ensure that the staff identified above are always available, 24 hours a day;
- methods for the movement or evacuation of patients, staff and other occupants in an emergency;
- means for first aid fire-fighting;
- periodic and formally recorded staff training in all these matters.

3.6 The emergency plan should be continually monitored and should be reviewed whenever there is a significant change in the management, staffing or internal layout of the atrium.

3.7 A copy of the fire safety policy and emergency plan should be kept on the premises and be available for inspection by the local fire authority.

3.8 The emergency plan will identify the numbers and responsibilities of staff who may be required to assist in a fire emergency; these staff may be employed either in the atrium or elsewhere within the hospital. It is essential that these staff are **always** available (day and night) to assist in a fire emergency.

Training of staff

Requirement

3.9 All staff who work in the atrium should attend fire safety training at least once in every 12-month period. The training should cover:

a. fire prevention;

b. the correct action to be taken when a fire is discovered;

c. evacuation and escape procedures for the building. This will include special arrangements for the physically disabled and the sensorily impaired; informing and reassuring members of the public, and directing or escorting them to exits;

d. an appreciation of the importance of fire doors and their correct use and avoidance of abuse;

e. use of first aid fire-fighting equipment provided including, where appropriate, practical demonstrations.

3.10 Further guidance on staff training is contained in Firecode: HTM 83 and 'Policy and principles'.

Northern Ireland – Northern Ireland Firecode Policy and Principles

3.11 Records should be kept of training and instruction and should include:

- the date of the instruction or exercise;
- the duration;
- the name of the person giving the instruction;
- the names of the people receiving the instruction;
- the nature of the instruction, training or drill.

3.12 The purpose of a drill is to ensure that staff are trained in the role they would play if a fire should occur. HTM 83 recommends that fire drills take place once in every 12-month period. Advance warning should be given of the date and time of the drill so that patients are fully informed. Management should ensure that the operation of the fire alarm in these circumstances does not result in the attendance of the fire brigade. **Drills should not endanger those taking part**.

3.13 When the fire drill discloses defects in the emergency plan, the means of escape or the means for giving warning, the record should include every defect and details of the action taken to remedy each one.

Fire prevention

3.14 Guidance on general fire prevention measures which are applicable to **all** NHS premises is contained in section 3 of HTM 83 – 'Fire safety in healthcare premises – general fire precautions'. In particular attention is drawn to the guidance on:

- smoking;
- arson;
- good housekeeping;
- waste disposal and collection.

Textiles and furniture

3.15 Textiles and furniture make a significant contribution to the fuel load within a building. Firecode: HTM 87 – 'Textiles and furniture' gives guidance on their selection. Although it is written primarily for patient care areas the guidance and standards quoted are also applicable to the places of assembly in atria.

Requirement

3.16 The guidance in Firecode: HTM 87 – 'Textiles and furniture' should be followed for the provision of textiles and furniture within the atrium (with the exception of goods for sale in commercial premises).

Additional guidance

3.17 Additional guidance on the responsibilities of management is contained the 'Guide to fire precautions in existing places of work that require a fire certificate'.

4.0 Technical recommendations

4.1 This section considers the physical fire precautions, additional to those in HTM 81 or Nucleus Fire Precautions Recommendations (NFPR), which are required when an atrium is incorporated in the design of new or existing hospitals.

4.2 The guidance in this section assumes that the physical fire precautions incorporated into the rest of the hospital are to the standards required by the appropriate Firecode guidance. For example new hospitals should comply with the guidance in HTM 81 or Nucleus Fire Precautions Recommendations and existing hospitals should comply with the guidance in HTM 85 or achieve an equivalent level of fire safety when assessed against the requirements of HTM 86.

4.3 In general, the requirements of Firecode apply to a hospital containing an atrium as they would to the equivalent non-atrium hospital. Except that the atrium and any associated floor area form a single compartment which may, in certain cases, exceed the maximum compartment size permitted for hospitals. However, if the recommendations of this FPN are followed, the size of the atrium need not be further limited.

4.4 **For the purposes of this document only** atria are classified under one of the following two headings:

a. **atria with a limited fire load** – where the fire load within an atrium and the associated floor area is limited so that over any 10 m^2 of floor area the convective heat output does not exceed 0.1 MW;

Structural elements and linings are excluded from the calculation.

b. **other atria** – where there may be a significant amount of combustible materials within the atria and the associated floor area.

4.5 Where the use of the atrium base and associated floor area is restricted, the introduction of additional combustible materials would have serious consequences were a fire to occur. It is therefore important that any restrictions which are imposed on the use of the atrium base and associated floor areas at the design stage of the building are fully documented and that these restrictions are known to all relevant levels of the hospital management.

General design recommendations

4.6 As discussed in section one of this document, an atrium can provide an exciting multi-storey space which will provide a focus and identity to the hospital. It is recognised that the design team will wish to maximise the use of the atrium space, both from a commercial point of view and also architecturally by creating a stimulating space to improve the overall environment of the hospital and as an aid to the recovery of patients.

Relationship to hospital departments

4.7 As atria provide a route by which fire and smoke may spread more rapidly than in the equivalent non-atrium hospital, certain types of department should not be located adjacent to atria. These fall into two groups: departments that may have high fire load and/or significant ignition sources present and departments that provide care for high dependency patients.

Requirement

4.8 Departments which have a high fire load and/or significant ignition sources should not be located in, or adjacent to atria; these may include:

- boiler houses;
- central sterile supply department (CSSD);
- central staff change;
- flammable store;
- laundry;
- main electrical switch gear;
- main kitchens;
- medical gas stores;
- medical records;
- pathology;
- pharmaceutical (manufacturing);
- refuse collection;
- works.

4.9 Departments that provide care for high dependency patients should not be located adjacent to atria; these may include:

- operating departments;
- coronary care units;
- intensive therapy units;
- neo-natal units.

4.10 Neither list is definitive and there may be other departments that may be included.

Use of atria

4.11 Although only mobile low-dependency patients will use the atrium, the facilities are likely to attract a high proportion of elderly people and people with a disability, who may still require staff assistance to evacuate the atrium in the event of a fire.

Requirement

The restriction of balcony seating areas does not preclude the provision of circulation spaces on upper floors within atria, provided that these are not used for escape purposes.

4.12 The following facilities should **not** be provided in an atrium:

a. sleeping accommodation;

b. nursing or medical care;

c. the areas listed in paragraph 4.8;

d. balcony seating areas for use by patients, visitors and staff.

Detection and alarm

4.13 The provision of adequate means for detecting a fire and raising the alarm is of vital importance where an atrium is incorporated in the design of a hospital. Early detection permits time for orderly evacuation and allows the fire to be tackled at an earlier stage, therefore reducing the risk to life and the damage caused.

4.14 The requirements for detection and alarm apply irrespective of whether the fire load within the atrium is limited or not.

Requirement

4.15 Alarm and detection systems should be designed in accordance with the guidance in Firecode: HTM 82 – 'Alarm and detection systems'.

Provision of automatic detection

4.16 An L1 automatic detection system as defined in BS5839: Part 1: 1988 should be provided throughout the atrium and in all hospital departments adjacent to the atrium.

Fire alarm zones

4.17 In all cases the fire alarm zones (as defined in BS5839: Part 1) of hospital departments and those of the atria should be kept separate.

Fire alarm warnings

4.18 The fire alarm warning system should be designed as an integral part of the hospital evacuation strategy and be so arranged as to minimise distress and disturbance to patients and staff. The alarm should be given automatically in the zone of fire origin and suitable facilities should be incorporated to alert staff in adjacent patient access areas of the hospital.

Means of escape

4.19 The guidance on means of escape in this section has been prepared on the understanding that the general means of escape for the hospital comply with the requirements in HTM 81, NFPR or HTM 85. It applies irrespective of whether or not the fire load within the atrium is limited.

Requirement

4.20 The means of escape from patient access areas should:

a. always be horizontally away from the atrium to an adjoining compartment, sub-compartment or stairway which is not abutting the atrium; and

b. should not pass through an atrium.

4.21 The means of escape from the base of the atrium and associated floor areas may be to circulation spaces in adjacent patient access areas.

Travel distance

4.22 The distance from within an atrium to adjacent compartments, hospital streets, stairways and final exits should be limited to ensure that the occupants can escape from the effects of fire within a reasonable period of time.

Requirement

4.23 The maximum travel distance before there is a choice of escape routes should be no more than 15 metres.

4.24 A minimum of two exits should be provided from the base of the atrium and associated floor areas, located to comply with the guidance in Diagram one below, so that the maximum travel distance from any point within the atrium is no more than 30 metres to:

a. an adjoining compartment;

b. a hospital street;

c. a stairway;

d. a final exit.

4.25 The number of additional exits required from the atrium, because of the occupancy loadings, should be determined from the table below:

31–200 persons	2 exits 1100 mm minimum width
201–300 persons	3 exits 1200 mm minimum width
301–400 persons	3 exits 1400 mm minimum width
401–500 persons	4 exits 1600 mm minimum width

Escape lighting

4.26 For hospitals the general guidance on emergency lighting contained within BS5266: Part 1: 1988 is supplemented by HTM 2007 – 'Electrical services – supply and distribution', HTM 2011 – 'Emergency electrical services' and the CIBSE guide – 'Lighting guide for hospitals and health buildings' which provide additional guidance on hospital emergency lighting and details of the electrical supply required.

Requirement

4.27 Emergency electrical services within the atrium should be designed to comply with the requirements of HTM 2007 – 'Electrical services: supply and distribution' and HTM 2011 – 'Emergency electrical services'.

4.28 In the event of failure of mains supply the essential lighting circuits should be designed to provide between 30 and 50 per cent of the normal lighting level.

4.29 In those areas where a 15 second response time would be considered hazardous (ie. stairways), *emergency lighting* should be provided by battery back-up giving a typical response time of within 0.5 seconds.

4.30 Where atria are located in hospitals which are not provided with essential and non-essential circuits as required by HTM 2007 and HTM 2011, *escape lighting* should be provided in accordance with BS5266: Part 1: 1988.

Separation

4.31 The degree of fire separation required between an atrium and the patient access areas of the hospital is determined by the fire load within the atrium, the fire load in those areas abutting the atrium and the requirement to maintain the fire-resistance provided by the compartment floors.

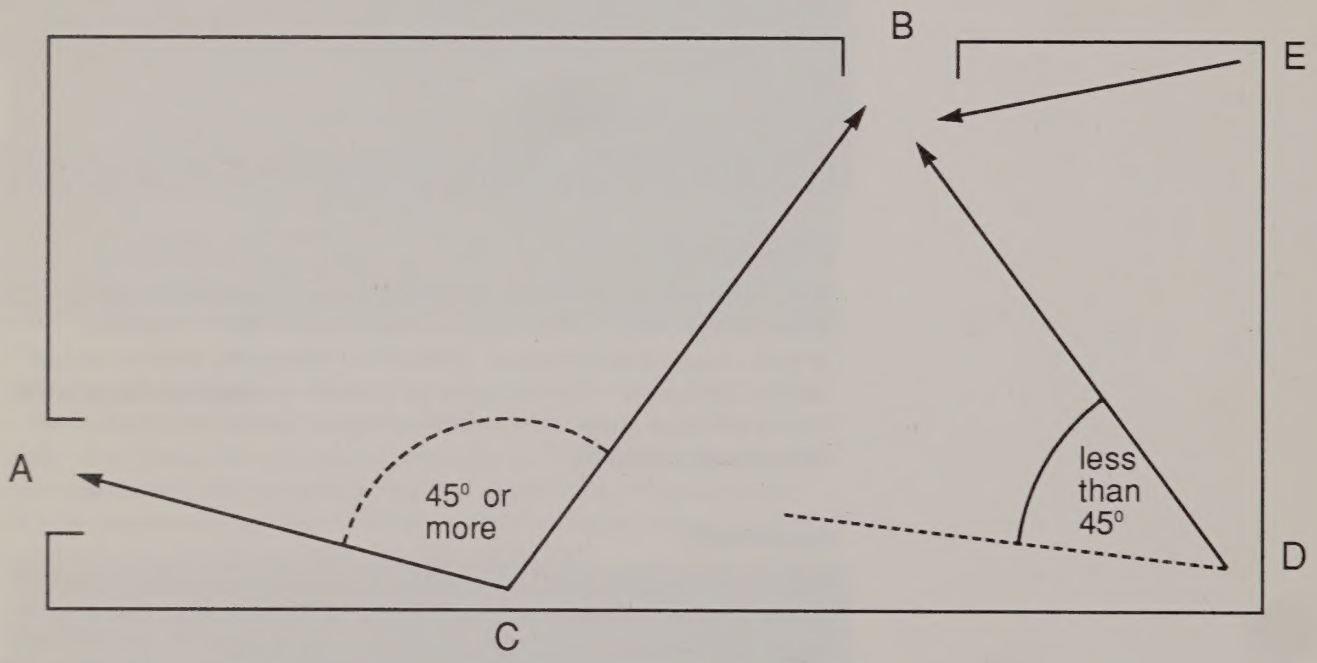
Requirement

4.32 Irrespective of the fire load, the atrium and the associated floor areas should be enclosed by walls which, when tested to the relevant parts of BS476, provide a minimum period of fire resistance of at least 60 minutes (integrity, insulation and where applicable, loadbearing capacity).

4.33 Openings within an atrium enclosure should be limited to doors provided with protected lobbies, having the same period of fire-resistance as the enclosure. The fire doors should not be provided with hold open devices.

4.34 Opening windows, ventilation grilles etc. should **not** be provided within the walls forming an atrium enclosure.

Alternative escape routes – Diagram 1



Alternative routes are available from C because ACB is 45° or more, so that either CA or CB should be less than 30 metres.

Alternative routes are not available from D because ADB is less than 45° so that DB should not exceed 15 metres.

There is no alternative route from E.

External fire spread

4.35 To restrict the spread of fire from the atrium to adjacent hospital buildings on the same site, or to other sites, adequate space separation between the atrium and other buildings, or adjacent sites, is required. The degree of separation will be determined by:

a. the maximum size of the compartment incorporating the atrium; and

b. the amount of unprotected area on the external wall(s) of the atrium.

Northern Ireland – Technical Booklet E 1994

4.36 Guidance on space separation and unprotected areas is contained in:

a. HTM 81 – 'Fire precautions in new hospitals';

b. 'External fire spread: building separation and boundary distances' published by the Building Research Establishment (BRE);

c. 'Approved Document B.'

Requirement

4.37 The space separation between the atrium and adjoining buildings, or adjacent sites, should be determined by reference to the guidance in paragraph 4.36 above.

Smoke control

4.38 In the early stages of a fire, the most important effects will usually be those of smoke and other products of combustion. In addition to reducing visibility, smoke will produce discomfort to the eyes and difficulty in breathing, both of which will hamper the efforts of occupants to find their way towards the exits. These considerations are particularly important when dealing with a large number of persons, some of who may not be familiar with their surroundings and who may vary widely in age and their degree of mobility.

4.39 To facilitate escape it is necessary to:

a. limit the distance people have to travel before they reach a temporary place of safety, or a final exit (see paragraph 4.24 above); and

b. safeguard escape routes against the effects of smoke.

4.40 It is not possible within the scope of this FPN to deal with all the problems of designing a successful smoke control scheme. This will normally require the services of a specialist who should undertake an investigation in consultation with the local building control and fire authorities.

4.41 BRE document 'BRE258 Design approaches for smoke control in atrium buildings' gives guidance on the general principles for the design of smoke control systems applicable to atrium buildings.

Requirement

4.42 All atria within hospitals should be provided with an appropriate smoke control system automatically activated either by the detection and alarm system, or other suitable means which is designed to:

a. maintain a steady buoyant layer of smoke at not less than 2.5 metres above the floor of fire origin;

b. ensure the smoke layer temperature does not exceed 200°C.

4.43 When a mechanically-powered smoke control system is brought into operation, the normal hospital ventilation system should cease to operate, unless specifically allowed for in the design smoke extract system.

4.44 Extract fans should be adequately rated to deal with the temperatures expected from the hot smoky gases. Alternatively, steps should be taken to reduce the temperature of the gases before they reach the fans.

4.45 All electrical apparatus and supply cabling used in the smoke control systems should be suitably protected to ensure sustained operation.

Automatic extinguishing systems

4.46 The provision of a sprinkler system will reduce the risk of a fire developing to a large size and will limit the quantities of heat and smoke produced. The design of certain types of smoke control systems may also require a sprinkler system to be installed to restrict the size and hence the smoke production of a fire.

4.47 The sprinkler system should be capable of effectively controlling a fire anywhere within the atrium and the associated floor space. The design of the system should take into account the reduced effectiveness of sprinkler heads when they are located high above the seat of the fire.

Requirement

4.48 An automatic sprinkler protection system should be provided in all atria where the fire load is **not** limited.

4.49 The sprinkler system should be:

a. designed and installed in accordance with the appropriate hazard class and to meet the life safety requirements of BS5306: Part 2:1990;

b. correctly maintained, ensuring that occupancy, goods stored, building interior designs and extensions, etc, are properly protected.

For life safety sprinkler systems, one of the water supplies should accord to the requirements of tables 6 and 7 of BS5306: Part 2: 1990.

4.50 The components which form a sprinkler system should be in accordance with the relevant standards and type approved to achieve the required reliability of performance and durability. Sprinkler systems should be maintained to ensure reliable operation when required.

4.51 Where an area is protected by sprinklers, any fusible link or other heat-sensitive device designed to close a fire door or shutter within the atrium enclosure should be either:

a. designed to operate before the sprinklers; or

b. located so the cooling effect on the device of the water from the sprinklers does not jeopardise its effective operation.

Segregation of services

4.52 The routing of services supplying hospital departments through an atrium requires careful consideration and it will be necessary to ensure that a fire within an atrium cannot disrupt or damage any of the services supplying hospital departments.

Requirement

4.53 Services supplying hospital departments should not be routed through atria spaces. Where this is not practical they should be accommodated within enclosures which provide a minimum period of fire resistance of at least 60 minutes.

4.54 Piped medical gases, as dealt with in HTM 2022 –'Medical gas pipeline systems,' should not be routed through an atrium.

Diagram two – Atrium with a limited fire load

- L1 AFD system required in atrium and all adjoining compartments
- Atrium enclosure to provide a minimum period of fire resistance of at least 60 minutes
- Smoke control system required

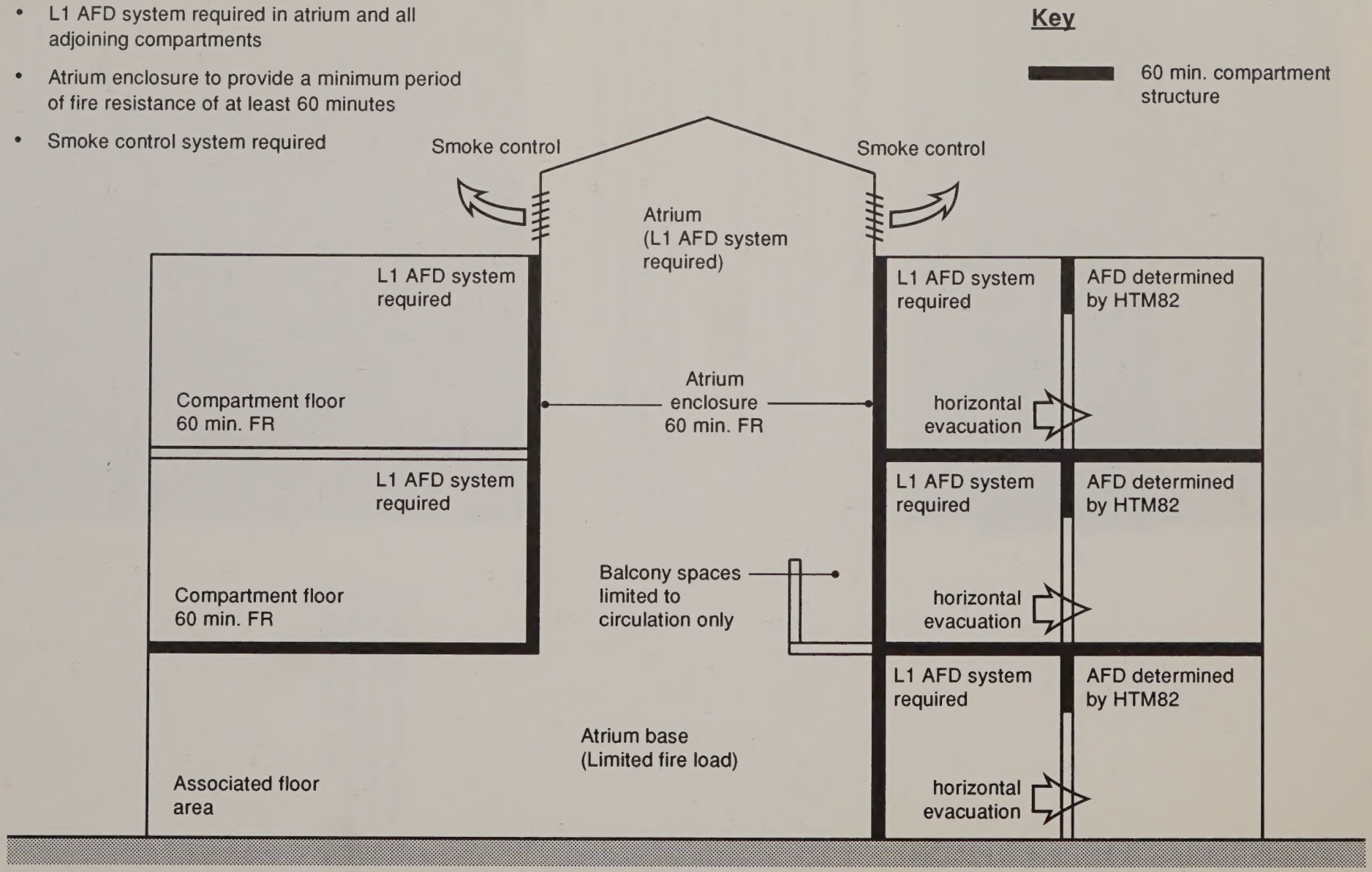
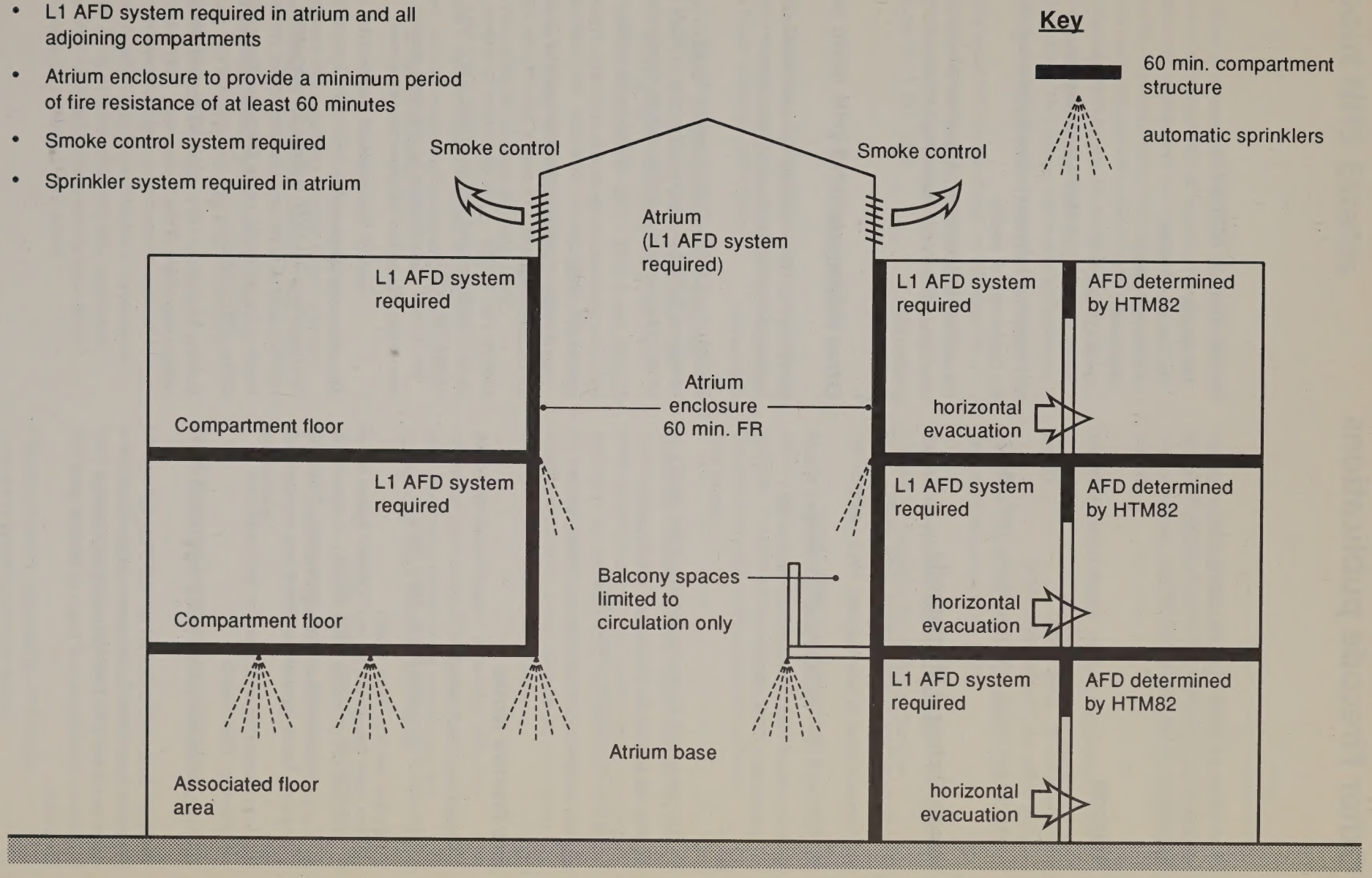


Diagram three – Other atrium

- L1 AFD system required in atrium and all adjoining compartments
- Atrium enclosure to provide a minimum period of fire resistance of at least 60 minutes
- Smoke control system required
- Sprinkler system required in atrium



Other Firecode publications

(Given below are details of all documents which, together, form 'Firecode'. Information is correct at time of publication of this Fire Practice Note.)

Firecode

Policy and principles, 1994. HMSO
Directory of fire documents, 1987. HMSO
Nucleus fire precautions recommendations, 1989. HMSO

Health Technical Memoranda

81 Fire precautions in new hospitals, 1987. HMSO

Sp1 Fire precautions in new hospitals, 1993. HMSO

82 Alarm and detection systems, 1989. HMSO

83 Fire safety in healthcare premises: general fire precautions, 1994. HMSO

84 —

85 Fire precautions in existing hospitals, 1994. HMSO

86 Fire risk assessment in hospitals, 1994. HMSO

87 Textiles and furniture, 1993. HMSO

88 Fire safety in health care premises, 1986. HMSO.

Fire Practice Notes

1 Laundries, 1987. HMSO

2 Storage of flammable liquids, 1987. HMSO

3 Escape bed lifts, 1987. HMSO

4 Hospital main kitchens, 1994. HMSO

5 Commercial enterprises on hospital premises, 1992. HMSO

6 Arson prevention and control in NHS healthcare premises, 1994. HMSO

7 Fire precautions in patient hotels, 1995. HMSO

'Firecode' documents published by HMSO can be purchased from HMSO Bookshops in London (post orders to PO Box 276, SW8 5DT), Edinburgh, Belfast, Manchester, Birmingham and Bristol or through good booksellers.

Enquiries should be addressed to:

NHS Estates
Department of Health
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Other references

BS476: Part 22:1987 – Methods for determination of the fire resistance of non-loadbearing elements of construction.

BS5266: Part 1:1988 – Code of practice for the emergency lighting of premises other than cinemas and certain other specified premises used for entertainment.

BS5588: Part 4:1978 – Code of practice for smoke control in protected escape routes using pressurisation. (AMD 5377, 9/86).

Part 8:1988 – Code of practice for means of escape for disabled people.

BS5839: Part 1:1988 – Code of practice for system design, installation and servicing. (AMD 6317, 1/91; AMD 6874, 5/92).

Part 3:1988 – Specification for automatic release mechanisms for certain fire protection equipment.

Miscellaneous references

Fire Precautions Act 1971: guide to fire precautions in premises used as hotels and boarding houses which require a fire certificate. Home Office and the Scottish Office, 1991. HMSO

Building Regulations 1991: approved document B: fire safety. Department of the Environment, 1992. HMSO

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Estatecode – user manual for managing a health estate. Includes a recommended methodology for property appraisal and provides a basis for integration of the estate into corporate business planning. *HMSO*

Concode – outlines proven methods of selecting contracts and commissioning consultants. Reflects official policy on contract procedures. *HMSO*

Works Information Management System – a computerised information system for estate management tasks, enabling tangible assets to be put into the context of servicing requirements. *NHS Estates*

Health Building Notes – advice for project teams procuring new buildings and adapting or extending existing buildings. *HMSO*

Health Guidance Notes – an occasional series of publications which respond to changes in Department of Health policy or reflect changing NHS operational management. Each deals with a specific topic and is complementary to a related HTM. *HMSO*

Health Technical Memoranda – guidance on the design, installation and running of specialised building service systems, and on specialised building components. *HMSO*

Health Facilities Notes – debate current and topical issues of concern across all areas of healthcare provision. *HMSO*

Firecode – for policy, technical guidance and specialist aspects of fire precautions. *HMSO*

Capital Investment Manual Database – software support for managing the capital programme. Compatible with Capital Investment Manual. *NHS Estates*

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